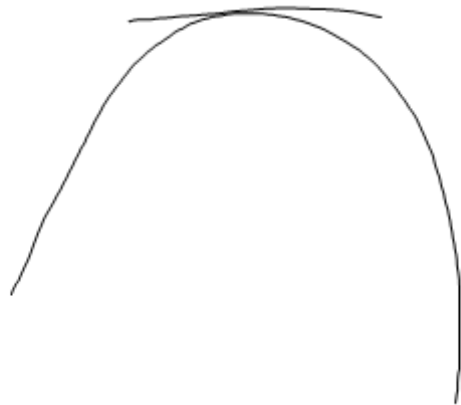


$$V = 12\pi x^2 - 3\pi x^3$$

$$\frac{dV}{dx} = 24\pi x - 9\pi x^2$$

$$0 = 24\pi x - 9\pi x^2 \rightarrow 0 = 3\pi x(8 - 3x)$$



$$x = 0, \frac{8}{3}$$

↑ ↑
min max

Method

- write an equation
- set equal to zero
- solve

Sect. 1.2

#155

Do algebraically, what x
maximizes the volume?

$$V = \frac{1}{3}\pi r^2 \cdot h$$

$$C = 2\pi r$$

HW

- Finish 12.3 problem
- $\frac{1}{2}$ hr. on 4.4 #3, 5, 6, 7, 9, 13, 14, 15, 17, 19
- Read 4.4